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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,108	12/13/2001	Georg G. A. Bohm	P01012US1A	2477

7590

09/16/2004

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EXAMINER

MAKI, STEVEN D

ART UNIT

PAPER NUMBER

1733

DATE MAILED: 09/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/022,108

Applicant(s)

BOHM ET AL.

Examiner

Steven D. Maki

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 032502.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

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- 1) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 2) Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 7, there is no antecedent basis for "the ... processing agent". It is suggested to change "processing agent" to --processing aid--.

- 3) Applicant is advised that should claim 1 be found allowable, claim 20 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim 20 has the same scope as claim 1. The different wording of the preambles of claims 1 and 20 fails to create a difference in scope between these claims.

- 4) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- 5) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Japan '642

6) Claim 19 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Japan '642 (JP 3-281642).

Japan '642 discloses a tire tread made from a rubber composition prepared by adding carbon black and a specified compound (processing agent) to a latex or solution of rubbery polymer and then drying. The dispersion of carbon black is improved.

Claim 19 is anticipated by Japan '642's tread. The shaped and cured properties are inherent with Japan '642's tread. Claim 19 is a product by process claim which reads on and fails to define a materially different product. See MPEP 2113. In any event: it would have been obvious to form Japan '642's tire tread such that the tread includes processing aid, carbon black and rubber as claimed since (1) Japan '642 teaches using the composition which comprises processing aid, carbon black and rubber to form a tire tread in which the dispersion of carbon black is improved and optionally (2) it is taken as well known / conventional per se to form a tread from a vulcanizable mixture by shaping a vulcanizable mixture to form a green tread and then curing the green tread.

Japan '357

7) Claims 1-7, 9-11 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan '357 (JP 61-130357) and Baranwal (US 3824206).

Japan '357 discloses making a vulcanizable composition by adding a rubber processing aid to a rubber in advance or with a filler so that mixing and dispersion of the filler into the rubber is carried out easily. The filler disperses rapidly and uniformly in the rubber. The vulcanized rubber shows improved physical properties, especially modulus and tensile strength. See abstracts. The filler can be "carbon black" (This information was obtained from a during a partial oral translation of Japan '357 by a PTO translator). Japan '357 therefore teaches **mixing rubber and a processing aid** and then mixing carbon black with the rubber and processing aid to form a vulcanizable composition and vulcanizing the rubber to form a vulcanized rubber such that the carbon black is uniformly dispersed in the vulcanized rubber so that the vulcanized rubber has improved modulus and tensile strength. Japan '357 is silent as to the rubber being in the form of a cement or latex when mixed with the processing aid.

As to claims 1 and 20, it would have been obvious to one of ordinary skill in the art to (a) mix Japan '357's **processing aid** with **rubber in the form of cement (rubber and solvent) or latex (rubber and water)**, (b) remove the solvent or water from the modified cement or latex to form a premix and then (c) mix the premix with carbon black since

(1) Japan '357, directed to making a vulcanizable rubber composition, suggests mixing the **processing aid** with **rubber** and then mixing with carbon black to form a vulcanizable composition; and

(2) it is well known, as evidenced by Baranwal et al (see col. 2 lines 7-26), to facilitate mixing of rubber with vulcanizing materials by (a) mixing an **ingredient (e.g.**

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**oil)** and **rubber in liquid form as a latex or a solution** to make a modified cement or latex, (b) converting the modified cement or latex to solid raw rubber / raw rubber containing oil ("premix") by coagulation if it is a latex or by evaporation if it is a solvent and then (c) mixing the premix with another ingredients such as carbon black. Hence, the basic process of a first step of adding, a second step of isolating and a third step of mixing is disclosed by Baranwal et al. Japan '357 motivates one of ordinary skill in the art to add a processing aid in the first step to obtain the benefit of uniform carbon black dispersion.

As to claims 2-6, it would have been obvious to add solvent to the processing aid to form a cocktail as claimed in view of Baranwal et al's teaching to facilitate dispersion of an additive in the water or solvent in which the rubber is dispersed by dispersing the additive in a small volume of water or solvent as is conventional in making up such mixes (col. 5 lines 34-38). As to heating in claim 3, it would have been obvious to heat the cocktail as claimed since it is taken as well known / conventional per se to improve dispersion using heat. As to claims 4-6, Baranwal suggests using oil.

As to claim 7 (drying), Baranwal et al teaches evaporating.

As to claims 9-11 (specified processing agent), Japan '357 suggests using fatty acid or fatty acid salt for the processing agent.

As to claims 16 and 19, it would have been obvious to shape and cure in the vulcanizable composition into a tire component such as a tire tread in view of Baranwal et al's suggestion to shape and cure a vulcanizable composition containing carbon black to form a tire tread.

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As to claims 17-18, the claimed amount of processing agent would have been obvious and could have been determined without undue experimentation in view of Japan '357's teaching to use the processing aid to obtain uniform dispersion of carbon black in rubber.

8) Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan '357 and Baranwal as applied above and further in view of the admitted prior art (page 11 lines 6-9).

As to claim 8, it would have been obvious to use the claimed mixer to carry out the mixing suggested by Japan '357 and Baranwal since the admitted prior art teaches that conventional large scale mixing equipment is generally characterized by a net mixing chamber volume of at least about 75 L operated at a fill factor or at least about 50.

9) Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan '357 and Baranwal as applied above and further in view of Lawson et al (US 5332810).

As to claims 12-15, it would have been obvious to use the claimed functionalized rubber as the rubber in Japan '357's process in view of (1) Japan '357's teaching that the rubber may be functionalized rubber and (2) Lawson et al's teaching of a functionalized rubber having a predictable molecular weight range for mixing with carbon black.

#### Remarks

10) No claim is allowed.

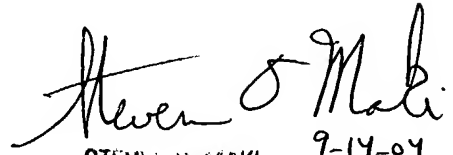
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11) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven D. Maki  
September 14, 2004

  
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PRIMARY EXAMINER  
~~GROUP 1300~~  
Av 1733  
9-14-04